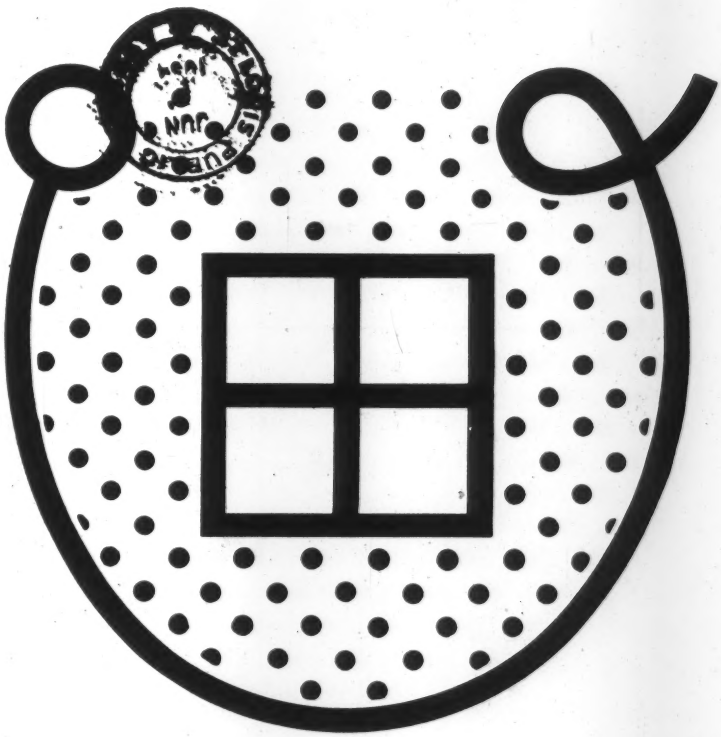
Applied Science Department

Air Repair

Volume I, No. 1

July, 1951



AIR POLLUTION AND SMOKE PREVENTION ASSOCIATION OF AMERICA
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Air Repair

A QUARTERLY MAGAZINE DEVOTED TO AIR PURIFICATION

AIR POLLUTION AND SMOKE PREVENTION ASSOCIATION OF AMERICA
4400 FIFTH AVENUE PITTSBURGH 13, PA.

Volume I, No. 1 July, 1951

By Way of Introduction

Ever since our old house organ SMOKE evaporated a few years ago, the Air Pollution & Smoke Prevention Association of America felt the need of a publication that would give Association news periodically, and thus keep members informed of what is going on.

AIR REPAIR is the planned answer, and, as the title suggests, it will be concerned not only with the control of smoke, but with the abatement of all other contaminants. Its scope will be as broad as that of the organization itself.

Our Association, as the Executive Secretary put it in his report to the Annual Meeting at Roanoke, Virginia, in May, can be compared with an automobile which had been put on jacks for the winter.

In order to enjoy the car, it had to be first taken off the jacks. A few tires were found to be deflated, and some inner tubes had to be patched. We also needed spark plugs, a grease job, and a tankful of gas.

Thanks to the 16 members of the Board, we have 16 spark plugs; thanks to Henry F. Hebley's magnificent membership drive, we have a reserve of fuel. We're out of the garage, we're on the open highway, and we're set to go places!

Your New Emblem

The unusual symbol shown on the masthead is the new emblem of the Association, passed by the Board when it met at the Roanoke Convention. Frankly, the Board is proud of it, and we hope you will be, too, because it accurately incorporates the things we stand for.

Its chief virtue is its simplicity. But that simplicity was obtained only after studying more than 2,000 separate alchemical characters, found in a rare volume at Mellon Institute. Considering the variations possible, the selection has been a happy one.

The loop around the outside stands for purification. The "window" in the center is one of the symbols for air. And the surrounding dots signify dust, ashes, and other forms of particulate matter—by extension, air contaminants.

The colors are black and white, the black signifying the atmospheric pollution of every kind with which our Association is at war. The white stands for the purity and singlemindedness of purpose with which all of us—air pollution control officials, industrialists, equipment manufacturers, and scientists—will attack the problems of control and abatement.

The emblem will be used on all official stationery, literature, documents, etc., and plans are being made for its conversion into lapel pins and watch charms, which members will be able to obtain at a moderate cost from the Executive Secretary later in the year.

Your New President

A President and five Directors were elected by letter ballot prior to the Roanoke Convention to take the place of those Board members whose terms had expired.

John L. Hodges, Chief, Division of Air Pollution Control, Bureau of Health, Philadelphia, and Chairman of the Association's Finance Committee during the past year, was elected President.

The nine short lines of biography which were furnished to AIR REPAIR by modest John Hodges don't tell much about this genial personality whom we are so fortunate to have at our helm for the coming year. We're using nautical language advisedly, because, if we're going to run into choppy waters, there's nothing like a sailor to keep us straight on our course.

John L. Hodges

John Hodges has been a sailor from 'way back. Born in Shreveport, La., 54 years ago, he joined the United States Navy during World War I. Later, he enrolled in Stevens Institute of Technology, receiving his M.E. degree in 1923. For five years thereafter, he served the Texas Company as marine efficiency engineer. In this position, he made many trips to sea on tankers, improving their engineering efficiency, reducing fuel consumption and smoke emission.

John is a member of ASME, NAPE, the Pennsylvania Society of Professional Engineers, and the Engineers' Club of Philadelphia. He holds professional engineer's licenses in New York, New Jersey, and Pennsylvania, and is a member of Sigma Nu fraternity.

Back in 1931, when William G. Christy, then Smoke Abatement Engineer of Hudson County, N. J., and now head of New York City's Air Pollution Control Department, was looking for a good deputy, he found and appointed John Hodges, who became a member of our Association that year. For ten years John kept a weather eye on the Hudson County skyline, then, when war loomed, he sewed a lieutenant commander's shoulder boards on his blue serge suit and worked for Uncle Sam for five years.

He returned to Hudson County in 1946, and two years later, was invited by the City of Philadelphia to occupy his present position. John has a very important message to convey to the Association but before he does so, we would like to acquaint you with the rest of the slate elected into office.

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The Other New Officers

Walter L. Lloyd, Fuel Engineer, Pennsylvania Railroad System, Philadelphia, was elected to fill the unexpired term of A. A. Raymond, Superintendent, Fuel and Locomotive Performance, New York Central System, Buffalo, who died last year. Mr. Lloyd will serve for two years. He is a most valuable addition to the Board, for he has spent many years studying fuel problems, particularly for steam locomotive service, and is well versed in all problems of combustion. Mr. Lloyd was graduated from Pennsylvania State College in 1934 and in the same year joined the Pennsylvania Railroad as a special apprentice. After various assignments in the Operating Department, he was transferred to the Coal Traffic Department last October as Fuel Engineer.

W. O. Everling

The following Directors will serve for three years: W. O. Everling, Charles S. Frost, Gordon P. Larson, and L. N. Hunter.

Mr. Everling, Director of Research, American Steel & Wire Company, Cleveland, a U. S. Steel Corporation subsidiary, has been very active in Association matters and has attended many of our national conventions.

He was graduated as a mechanical engineer from the University of Munich in 1926 and came to the United States the following year. His first association with the U. S. Steel Corporation was that year, when he was employed as a draftsman for the Carnegie Steel Company.

In 1930, Mr. Everling became associated with the American Steel & Wire Company and his rise in that organization has been steady. After serving as assistant master mechanic and plant engineer, he was promoted to Assistant Director of Research in 1940. Four years later he was advanced to the position he now holds. Mr. Everling is a member of the American Iron & Steel Institute, the British Iron & Steel Institute, the American Society for Metals, the ASME, and the American Chemical Society.

The indefatigable Charlie Frost, Director, Department of Air Pollution Control, Roanoke, Va., is still receiving congratulations for the wonderful convention he and Jack Doyle put on in May. Herb Dyktor, Leroy Diehl, and the rest of the Cleveland lads will have to hump themselves to come up to the Doyle-Frost presentation.

Charlie is an alumnus of William and Mary College, Carnegie Institute of Technology, and Purdue University, and studied both civil and combustion engineering. He was Assistant Combustion Engineer for the City of Indianapolis for a year, and has held his present position —Director, Department of Air Pollution Control, City of Roanoke, Va., since March, 1947. He is President of the Southern Virginia Engineers' Club, and Vice President and Director of the Roanoke Lions Club. He is a member of the Indiana Inspectors' Association, and his fraternal affiliations include membership in the Kazim Shrine Patrol and the Scottish Rite Degree team.

When Dr. Louis C. McCabe, now Chief, Fuels & Explosives Division, U. S. Bureau of Mines, Washington, and a member of our Board o Directors, was in charge of air pollution control in Los Angeles, his assistant was Colonel Larson. After Dr. McCabe left to take up his new duties in Washington, Colonel Larson succeeded him in Los Angeles. He is an alumnus of the United States Military Academy at West Point, and

Charles S. Frost

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served his country as a commissioned officer for 12 years following his graduation, directing and administering major engineering and construction projects in the Corps of Engineers. He entered air pollution control work in Los Angeles County in April, 1948, and he has been Director for the past two years.

Colonel Larson is the author of many technical papers concerned with air pollution, which have received international attention in engineering and scientific circles. He has assembled a staff of scientists and coordinated several research projects leading to the identification of air pollutants causing eye irritation, crop damage, and other effects of smog.

Gordon P. Larson

Remaining Directors—And Their Terms

Harry C. Ballman, Smoke Regulation Engineer, Columbus, Ohio, was elected by the Board to fill the vacancy created when John Hodges moved into the President's chair at the close of the Convention. Harry is an alumnus of the University of Cincinnati. After finishing his education he served the Island Creek Coal Sales Company as Industrial Sales Engineer, then was in charge of personnel training at the United States Machine Corporation, manufacturers of stokers and other fuel-fired equipment. From 1947 to 1948 Mr. Ballman lived in Indianapolis where he was Assistant Combustion Engineer of the Board of Air Pollution Control. For a year after that he served the City of Richmond, Va., as Smoke Regulation Engineer. He has held the same position in Columbus since January 15, 1949. Harry will serve on the Board until the next election.

L. N. Hunter

What do you suppose his hobby is? Outside of color photography, Harry likes to travel around the country investigating problems pertaining to smoke. Will someone kindly get up and make a crack about coals and Newcastle before your editor does it?

The other Board members, whose terms expire in 1952, are Past President Charles W. Gruber, Chief Smoke Inspector, Cincinnati; Dr. George R. Hill, Consultant, American Smelting & Refining Company, Salt Lake City; W. L. Stewart, Jr., Executive Vice President, Union Oil Company, Los Angeles, who has done a magnificent job on Henry Hebley's membership committee; Ellis E. Smauder, President of the American Incinerator Company, Detroit; and Fred W. Classon, Smoke Abatement Official, Wyandotte, Michigan.

In the group whose terms expire in 1953 there are, besides President Hodges and Walter Lloyd, the following:

Henry F. Hebley, APSPAA Vice President, Research Consultant, Pittsburgh Consolidation Coal Company, who was reappointed Chairman of the Membership Committee because of his phenomenal activity during the past year; Thomas C. Wurts, APSPAA Vice President, Director of the Allegheny County Bureau of Smoke Control, Pittsburgh, who, in addition to serving as Chairman of the Special Management Committee, was also made Chairman of the Finance Committee; William E. Tidmore, Smoke Abatement Bureau, Atlanta; and Dr. Louis C. McCabe, Chief, Fuels and Explosives Division, U. S. Bureau of Mines, Washington 25, D. C.

Harry C. Ballman

Those whose terms expired in May, and who accordingly are no longer serving in an official capacity, are herewith singled out for conspicuous contributions to the Association's program.

Louis J. Cudbird, Chief Engineer, City Hall, Toronto; John T. Doyle, Vice President in charge of Engineering, Thermix Corporation, Greenwich, Conn., who was the National Chairman in charge of the very successful Roanoke convention; Gerry V. Williamson, Union Electric Company of Missouri, St. Louis, who, as Chairman of the Public Relations Committee, kept editorial interest in the Association alive during its period of transition; James H. Carter, Smoke Commissioner, St. Louis; Walter E. Sample, Baltimore & Ohio Railroad, Balti-

Nat Hunter is a king-sized Canadian with a great deal of cordiality. As Vice President in charge of Research and Director of the National Radiator Company, Johnstown, Pa., this University of Toronto graduate is a recognized national figure in the science of heating. He belongs to such technical and professional societies as the American Gas Association, the ACS, the ASME, the ASHVE, the American Ordnance Association, the Institute of Boiler and Radiator Manufacturers, and the Steel Boiler Institute.

Mr. Hunter has been Chairman of the Engineering Committee of the Steel Boiler Institute from 1943 to the present, and holds a similar chairmanship in the Oil-Heat Institute of America. He is a member of the Research Committee of ASHVE, and was its Chairman in 1948 and 1949. He is also a member of the Council of the ASHVE. Mr. Hunter has been affiliated with the National Radiator Company since 1930.

more; and Harry E. Kunkel, Special Assistant, Air Pollution Control District, Los Angeles, Calif.

These men helped to make important decisions, among them the removal of the secretariat from Chicago to Pittsburgh, and to accept the offer of Mellon Institute of office space, clerical facilities, and immeasurably valuable technical assistance at a moderate annual cost.

The President's Message

(In greeting the members of the Association, President John L. Hodges has the following comments to make:)

I am deeply grateful for the high honor you have bestowed upon me by electing me President. I accept the responsibility and hope, with the help of the Directors, that we can make a rich contribution to the progress of our Association during the coming year.

It is my earnest desire to continue the fine team work that has been evident in the administration of the Air Pollution and Smoke Prevention Association of America, so that it can be of ever greater help to its members and to everyone who needs its services.

You, the members, have already proved your faith in the organization. This is the inspiration which will impel the Board to work harder than ever.

The Annual Meeting at Roanoke, so outstandingly successful, has made a deep impression on everyone who attended. You will find a report on this Convention in the following pages, which will be particularly interesting to those who were unable to attend.

The program was exceedingly rich in information pertaining to our aims, and Messrs. Doyle and Frost deserve a big hand for the manner in which they prepared and put over this informative and interesting meeting.

The aims of our organization have been completely stated in the folder *Cleaner Air,* which was available to Convention delegates. If any of you desire copies, please write to headquarters for them. We are, of course, after more members and are certain of obtaining more as we become stronger and more influential on the international scene.

To keep each other informed, we have decided on the publication of this little paper. We have called it AIR REPAIR, and this is the first issue. This publication cannot, of course, run itself. It needs news, editorial material, and pictures, and all of you can be of help in passing newsworthy matters to the headquarters office. I am particularly anxious to hear from our Canadian colleagues and their vigorous activities to make cleaner air a reality in their communities.

Robert T. Griebling, our Executive Secretary, who had looked forward to covering the Convention, was confined to his home on doctor's orders two days before he was to have started for Roanoke. This was most unfortunate, but John J. Grove, Secretary, United Smoke Council, Allegheny Conference on Community Development, Pittsburgh, was only too happy to assist us in the important task of reporting the Convention. His report is among those that follow. I want to take this opportunity to express the thanks of the Board and the entire Association to Mr. Grove for his help.

We also had to lean on the able journalism of the *Oil, Paint, and Drug Reporter,* which gave us 60 column inches, plus an editorial, in the May 14, 1951 issue, even though it deplored the fact that we were unable to agree on the establishment of standards. This is, of course, a highly controversial subject which will be covered in detail, pro and con, in subsequent issues of AIR REPAIR.

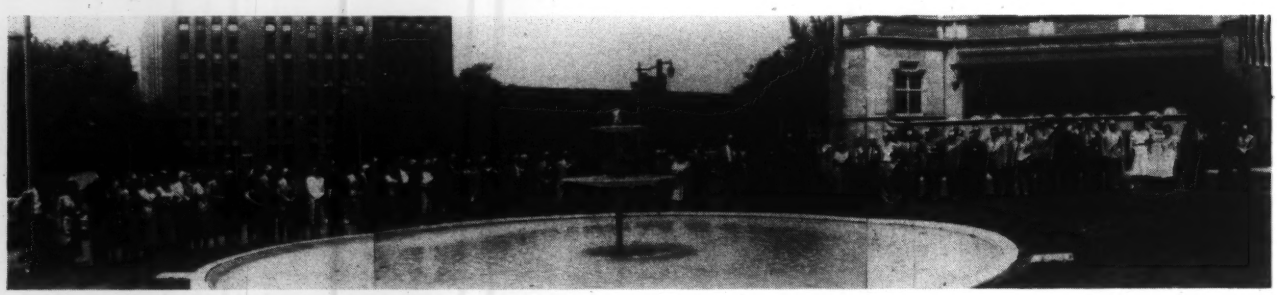
Three Keynote Speakers

We had the extremely good fortune to have not one, but three outstanding popular speakers, in addition to the excellent technical lectures, whose presence on the program was arranged by Jack Doyle and his committee.

Colgate W. Darden, Jr., President, University of Virginia and former Governor of Virginia, gave a spirited patriotic address on Monday, May 7, at the luncheon. He is greatly interested in community development and adequate national defense.

Another prominent Virginian, Attorney-General J. Lindsay Almond, Jr., was the guest speaker at the annual dinner and dance on Wednesday, May 9.

Dr. Edward R. Weidlein, President, Mellon Institute, gave an exciting resume of a trip he had recently made in the interests of national defense. While part of his trip was classified and could not therefore be discussed, he was able to mention that he had seen many of the country's newest weapons in action and that they were far superior to the type used in World War II. The military



Gathered around the fountain before the Roanoke Hotel, the Convention headquarters, are a few of the 350 delegates and visitors who attended the 44th Annual Meeting.

Principal Convention Speakers

Dr. Edward R. Weidlein

Colgate W. Darden

J. Lindsay Almond, Jr.

leaders, he stated, were concentrating on fire power rather than manpower, and had achieved amazing results so far.

Dr. Weidlein, who has been deeply interested in air pollution control since 1916 when he inaugurated a series of studies at Pittsburgh, at first decided to speak on air purification. At the last minute, however, he was prevailed upon to change his subject in order to give his audience a glimpse of the preparations the nation is making to defend itself.

He is an American scientist of distinction on whom the Government has leaned again and again. He was a chemical expert on the War Production Board during World War I, and held a number of most important positions during World War II. In this period he was asked to induce and step up synthetic rubber production. His efforts resulted in the erection and successful operation of all the needed synthetic rubber plants before the war was over.

The Convention Program

The technical program, on which Jack Doyle worked so faithfully through the winter months, was divided into seven principal sections, none of them overlapping. The 45 participants, whose complete remarks will be printed in the 1951 Proceedings, included:

Equipment Manufacturers—John M. Kane, American Air Filter Company, "High Temperature Gas Cleaning"; Joseph K. Blum, Consulting Engineer, "Incinerator Design and Construction"; C. A. Gallaer, Buell Engineering Company, "Economics of Fly Ash Collection"; L. M. Roberts and C. E. Beaver, "Application of Electrical Precipitation Equipment for the Reduction of Atmospheric Pollution." Aubrey J. Grindle, Vice President of the Whiting Corporation, served as Chairman. The Vice Chairman was L. F. Lang, District Manager, Western Precipitation Corporation, Chicago.

Mr. Kane's paper brought out the fallacy of specifying "the weight of dust per cubic foot of gas" discharge from industrial vents as a standard of cleaning efficiency. It is very easy to dilute weighted gases, he stated, and thus the grain loading becomes an elusive standard. Neither is visibility an adequate standard of stack discharge. Mr. Kane suggested that collection effectiveness be specified in terms of weight units.

Mr. Gallaer brought out the wide cost range of different types of dust cleaning equipment, as well as the wide range of collection efficiencies. A plant discharging approximately 50,000 cfm of flue gases needs collectors ranging from $5,700 for a low efficiency collector to $30,000 for a high efficiency collector.

Messrs. Roberts and Beaver described various applications of electrical precipitators. Of particular interest was their description of the proposed application of this type of flue dust cleaner to an iron melting cupola. The gas cleaning problem on such equipment is quite different because of the high temperatures. A pilot plant study, made recently, was quite encouraging, in accordance with which a full-scale installation will probably be authorized.

Vigorous discussions on the subject of incinerator design and construction during the entire meeting brought out the seriousness of the problem in all cities, and the urgent need for some means of combatting the smoke, odor, and fly ash nuisance coming from incinerators in general.

Bituminous Coal Activity—A. L. Brown, Executive Secretary, Coal Producers' Committee for Smoke Abatement, spoke on "Engineering, Not Emotion, Will Correct the Smoke Problem"; E. C. Payne, Consulting Engineer, Pittsburgh Consolidation Coal Company, "Consulting Service for Small Plants"; E. R. Kaiser, Assistant Director of Research, Bituminous Coal Research, Inc., "Factors Affecting Dust Emission from Boiler Surfaces." Panel Chairman and Vice Chairman, respectively, were H. B. Lammers, Chairman, Coal Producers' Committee for Smoke Abatement, and Fred K. Prosser, General Coal Traffic Manager, Norfolk & Western Railway.

Mr. Brown cited proper municipal smoke control programs, recommending that such programs be based on sound engineering principles and not merely on emotion.

The data contained in Elmer Kaiser's paper will be helpful in evaluating the installation of new equipment. A combustion engineering service, sponsored by Bituminous Coal Research, Inc., for the small coal-burning plant, was described by Mr. Payne. The purpose of this serv-

A sign painter's spelling mistake was used to rib Charlie Frost. He immediately had another sign painted and hung below the first. It's pinned in place by Miss Virginia Cassell, left, and Miss Roberta Vetter, while Mrs. Edna D. Oakey looks on. Yuh got outa that one fast, Charlie!

ice is to encourage better planning, design, and application of coal-burning equipment, to promote higher efficiencies and lesser stack discharges of air contaminants.

Chemical Industry—A. B. Pettit, Supervisor, Industrial Health and Safety, Davison Chemical Corporation, "Controlling Fluoride Emissions from Acidulation of Phosphate Rock"; J. Paul Jenny, Department of Mechanical Engineering, Aluminum Company of America, "Smelter Fume Control"; R. F. Schultz, Hooker Electrochemical Company, "H_2S Control." Chairman and Vice Chairman, respectively, of this session were Dr. C. A. Gosline, Consultant, Trade Waste and Meteorology, E. I. du Pont de Nemours & Company, and George Jenkins, Supervisor of Design, Carbide and Carbon Chemical Division, Union Carbide and Carbon Chemical Corporation.

Fluoride emissions from acidulation of phosphate rock in the Davison plants are controlled, Mr. Pettit said, in the interest of health, comfort, and well-being of employees and of the people in the communities. It has not been possible to determine adverse effects on the health of long-time workers, and the concentrations have been substantially reduced.

Explaining the chemical composition of phosphate rock, Mr. Pettit gave an outline of the process of its acidulation and the handling of the resulting super-phosphate. In order to prevent leakage of gases, the equipment is kept under slight negative pressure which makes the recorded data appear high. Data presented were obtained by analyzing the rock going to the mixer and the superphosphate as it left the elevator, calculating the total fluorine involved.

Data were presented on construction, operating and maintenance problems with (1) water-spray scrubbing towers, with an apparent average efficiency of 95 per cent; (2) Schutte & Koerting fume scrubber, averaging 98 per cent; (3) water-spray horizontal scrubber, averaging 99 per cent. Comparison of water and pressure requirements were given. The lowest amount of water per volume of gas was shown to give the highest efficiency.

In conclusion, Mr. Pettit said:

"We do not feel we should offer you any conclusions and are leaving it up to you to form your own. We have only tried to tell you our experiences, for whatever value they may be to you. As stated in the beginning, we do not have all the answers to these vexing industrial problems. We do feel they are of growing social importance and that the solution to them will lie in the overall cooperation and knowledge obtained from meetings such as these.

"Again, I want to repeat that we will always appreciate any suggestions you have to offer that will enable us to improve our control of fluoride emissions in an economically feasible manner, that we may continue to protect the health, safety, and well-being of our employees and the people of the communities where we operate."

Both combustion and process problems were discussed by Robert F. Schultz, Hooker Electrochemical Company. The company's fly ash problems had been successfully handled with standard equipment, but the disposal of hydrogen sulfide required special attention, and gaseous and odorous emanations from the municipal sewers presented a big abatement problem.

The hydrogen sulfide is generated in connection with the production of sodium sulfydrate and sodium sulfide, and is vented in small amounts from various stages of the processes. The total is small, but it sufficed to cause damage to plant electrical equipment. Tests showed the responsibility of hydrogen sulfide and sulfur dioxide. Installation of a recovery system was not economically practicable, so a special equipment, with thermocouples and windshields, was installed for the burning of the gases.

Complaints on sewer odors led to much experimentation in the detection of causes. Out of this came methods which gave good detection of chlorinated aromatics and both high and low boiling aliphatics in the vapor phase from aqueous solutions. These derived from processes involving benzene and toluene. Installation of air-stripping tanks gave a high measure of elimination. Analysis is done by means of ether extraction. Although the plant effluent is odorless, conditions beyond the plant are still in part unfavorable. Experimentation is being carried on looking to more satisfactory results.

Smelter Fume Control—Remedial developments in connection with the much-discussed atmospheric unsatisfactoriness in the region of Los Angeles caused the Aluminum Company of America to look analytically into the emission of gases from the stacks of its Vernon castings plant. The study and the steps taken to meet unsatisfactory conditions were reported by J. Paul Jenny, who had worked with Dr. L. V. Cralley in studies at various Alcoa plants. It was found that the emissions from the re-smelting operations were the most difficult to control. Those consisted primarily of metallurgical fume generated in the fluxing and skim treatment operations, aggravated when oil-soaked scrap was charged.

The oxide scum on the melted metal is treated with a flux, and aluminum chloride is sometime used to flux the metal. Both operations give rise to a white fume. Spectrographic and chemical analyses showed that the major constituent of the fume from the salt-cryolite fluxing was sodium chloride, with small compounds of aluminum and magnesium.

Pilot plant experimentation was done with several types of scrubbers: an electrostatic precipitator, and an ultrasonic agglometer, some 200 tests being made

Ellis Smauder, Official "Unofficial" Convention Photographer!

at several plants over several months. Comparative efficiencies were determined, the electrostatic unit leading with 90 per cent to 99 per cent. Studies were also made on the effects of varying amounts of flux, which showed that use of less than 20 pounds, with low fire and closed damper, generated little fume. Charging oil-soaked scrap lightly and leaving the furnace doors open substantially reduced the resulting smoke, but it was difficult to meet the official shade limit of Ringelmann No. 2.

The experiments showed that careful operating would avoid fuming at furnace stacks, but a collection device was desirable on units for scum or skim treatment. The choice there narrowed down to the electrostatic precipitator and the ultrasonic agglometer. Consideration of many factors, including initial investment, operating costs, power and water requirements, limits of operation, expandability, repair and maintenance, and cost of replacement parts, led to the selection of a combination scrubber-electrostatic precipitator built of redwood, with iron discharge electrodes and "Transite" collecting electrodes. The corrosive nature of the fume influences the selection of the structural materials. A separate water treatment system was installed.

The unit was placed in operation in December, 1950, demonstrated compliance with the local code, and permission to operate was granted by the Air Pollution Control Board.

Technical Conference—W. N. Witheridge, Consulting Engineer, General Motors Corporation, and Dr. Hamnett P. Munger, Battelle Memorial Institute,

were Chairman and Vice Chairman, respectively, of this section.

The speakers included Jean J. Schueneman, Air Pollution Engineer, St. Louis Department of Public Welfare, who spoke on "Atmospheric Concentration of Sulfur Dioxide in St. Louis in 1950"; W. C. L. Hemeon, Engineering Director of Industrial Hygiene Foundation, "Automatic Instruments for Air Pollution Measurements"; A. L. Chaney and Stanley R. Hall, Chaney Chemical Laboratory, "Instrumentation for Recording of Air Pollution Levels"; Gordon P. Larson, Director, Air Pollution Control District, Los Angeles, and newly elected Director of APSPAA, "Recent Identification of Atmospheric Contaminants in the Los Angeles Basin"; and Charles W. Conner, Administrator, Defense Solid Fuels Administration, "Supply of Solid Fuels in a Defense Emergency."

Automatic instruments for air sampling available at present cost thousands of dollars, thus precluding their general use. It is therefore encouraging to report a project now getting under way, aimed at the inexpensive manufacture of air sampling devices. The goal: a recording device not to exceed $25, and a vacuum pump not to cost more than $50.

Atmospheric Studies—The findings of a survey on atmospheric concentrations of sulfur dioxide in St. Louis in 1950 by Mr. Schueneman were summarized as follows:

1. The concentrations were 83 per cent lower in winter and 73 per cent lower in summer than they were in 1936-37. These reductions probably have been brought about partly by enforcement of provisions of the smoke regulation ordinance and partly by the increased use of oil and gas for fuel in place of coal.

2. The higher average concentrations of sulfur dioxide in St. Louis were found in the central part of the city both in 1936-37 and in 1950.

3. Concentrations now found in the central portion of the city are comparable to those which were found one to ten miles outside the city 13 to 14 years ago. To the public, this reduction in sulfur dioxide concentrations has been apparent in that they no longer notice a sulfury sensation on coming into the city from the suburban areas. Painted surfaces do not require repainting as often as in the past; surface deterioration of stone and similar materials is retarded; certain types of corrosion of metals are reduced; and some forms of vegetation which formerly could not be grown within the city are now as hearty in the city as they are in outlying areas.

4. The 1950 survey indicates that space heating contributes only an average of 0.011 ppm. of sulfur dioxide to the total winter concentration of 0.041 ppm. The remainder is contributed by such sources as industrial plants, automobiles, trucks, buses, apartments and hotel water-heating units, refuse burning, and railroad locomotives.

5. During the 1950 study it was found that sulfur dioxide concentrations were twice as high in periods when wind velocity was below 14 mph. as they were during periods when the wind velocity was about 13 mph. During the 1950 study, wind velocity did not have much effect on sulfur dioxide concentrations.

6. In general both winter and summer studies in 1950 showed that higher average concentrations were found in the city when winds were blowing from directions of extensively developed areas surrounding the city.

7. During summer the average sulfur dioxide concentrations were significantly higher when the Weather Bureau did not note smoke than when it did.

8. During the winter 1950 study it was found that the average sulfur dioxide concentrations tended to increase as visibility in miles decreased. During the summer study last year visibility observations did not correlate with sulfur dioxide concentrations.

9. A tendency toward lower sulfur dioxide concentrations, with relative humidities above 69 per cent, was shown in the summer 1950 study.

Larson's Report—A progress report on the classic atmospheric contamination problem of Los Angeles was presented by Gordon P. Larson, Director of the Los Angeles County Air Pollution Control District, and covered the identification of contaminants, explaining the methods used.

Contaminants detected included aldehydes, aluminum, barium, boron, calcium, carbon, chromium, copper, formaldehyde, iron, lead, lithium, magnesium, manganese, nickel, nitrogen oxides, silicon, silver, sodium, strontium, sulfur dioxide, sulfur trioxide, and titanium.

These were present as dusts, aerosols, gases, and vapors, some of them said to be in products of photochemical reac-

A. L. Brown, Executive Secretary of the Coal Producers' Committee for Smoke Abatement, reads his paper. Others, left to right: E. C. Payne, Pittsburgh Consolidation Coal Company, Fred K. Prosser, Norfolk and Western, and H. B. Lammers, Chairman, Coal Producers' Committee.

Visitors Herbert H. Moore, Jr., of Roanoke, left, and E. V. Whiteley, of Philadelphia, inspect the model layout of the Virginian Railroad yards at Roanoke, showing typical locomotive repair shop, including coal, sand, and water facilities.

tions. It was declared that air pollution control is now faced with a new field of combustion called "cold" combustion in the atmosphere. This combustion presents many hazards for human beings, especially in eye irritations and for many kinds of vegetation. The loss to growers from a single attack was conservatively estimated at $125,000.

Mr. Conner, in discussing the supply of solid fuels, called coal "one of our most important single sources of energy," and stated that a shortage of coke may cut steel production in the United States below the 105,000,000 tons scheduled for 1951. He estimated coke production at 78,500,000 tons this year. If 105,000,000 tons of steel were made, he said, more than 80,000,000 tons of coke would be needed. However, he pointed out, coal lost its "historic position" of supplying more than 50 per cent of total energy in this country. In 1920, it was 78 per cent, he said, but by 1949 it had dropped to 40 per cent.

Railroads—M. G. Stewart, Road Foreman of Engines, Washington Terminals, served as Chairman, assisted by G. G. Ritchie, Coal Traffic Manager-Engineer, Chesapeake & Ohio Railway, Richmond, Va. The speakers included S. E. Back, Instructor, Pennsylvania Railroad Instruction School, Philadelphia, "The Experience of a Smoke Inspector"; W. W. Matzke, Assistant to Chief Mechanical Engineer, Chicago & North Western Railway, "Smoke Prevention on the Chicago & North Western Railway"; R. G. Norton, Supervisor of Smoke Abatement, Norfolk & Western Railway Company, Roanoke, "Why and How Railroads Should Participate in the Smoke Abatement Program."

Mr. Norton said that excess smoke is a public nuisance, and its abatement must have the complete support of management. Outlining the program of his company, he stated:

"We have not reduced the amount of smoke emitted from our coal-burning equipment to the point where we are satisfied. However, we are making real progress, and we are working just as diligently to abate smoke in small communities and in towns and cities that do not have, and have never considered, anti-smoke regulations as we are in cities that have these regulations."

W. W. Matzke, Assistant to Chief Mechanical Engineer, Chicago and North Western Railway, also told of a railroad program for smoke abatement which had done much to clean the atmosphere of Chicago.

"Excessive and prolonged black smoke," he said, "coming from a locomotive, not only constitutes a source of atmospheric pollution, but also represents inefficient locomotive operation."

Steam Power Plants—This panel discussion on the problems of stack design for steam power plants was led by G. V. Williamson, Steam Engineering Superintendent, Union Electric Company of Missouri, St. Louis, a recent Board Member of APSPAA, and his Vice Chairman, Paul Gravelle, Mechanical Engineer, Toledo Edison Company.

The discussion began with a paper by Ward F. Davidson, Consolidated Edison Company, New York, entitled "Studies

of Stack Discharge Under Varying Conditions." Dr. E. L. Wolf, Consolidated Gas, Electric Light and Power Company, Baltimore, spoke on "What the Power Plant Stack is Required to Do." The third paper, contributed by the Chairman, was entitled "Features of Stack Design, Construction, and Operation."

This session brought out recent experimental work on wind tunnel studies to learn the behavior of smoke plumes as they are discharged from the chimney. The papers presented revealed the potentialities of the wind tunnel as a research tool for studying the dispersion of atmospheric contaminants.

Studies made on power plant chimneys indicate that the location of the stack relative to its own building and adjacent structures, meteorological factors of wind direction, velocity and temperature inversion, and the location of areas to be protected, are all factors to be considered.

The author of one paper stated:

"It is scarcely possible to have too many such data; the usual experience is not to have enough, and to be forced to make generalized assumptions without being able to estimate their reliability."

President Gruber commented:

"Our observations in Cincinnati, time and time again, have revealed the smoke trail of an incinerator chimney on a three- or four-story building being drawn to the sidewalk level, or to a court between buildings, carrying the incinerator odors and fly ash to the breathing zone.

"Incinerator chimneys usually terminate only a few feet above the roof. The wind blowing over the building creates a vacuum on the up-wind side, in the same manner as wind blowing over the wing of an airplane. Thus smoke is drawn to the ground in the immediate area of the building."

By transposing the knowledge gained from wind tunnel studies on large central station chimneys to the behavior of flue gas discharges from chimneys serving commercial buildings or residential units in thickly populated areas, the reasons for such behavior of chimney gases can be seen, particularly as previously described in connection with incinerator stacks.

Wind tunnel studies have indicated that the chimney should be two and a half times the height of the building it serves, in order to take the stack discharge out of the turbulent zone created by the wind flowing over the building.

Such a rule is a wide departure from many present code requirements, some of which state that the chimney may terminate as little as four feet above a flat roof! President Gruber's further comment was interesting. He said:

"In the enforcement of our chimney height regulations in Cincinnati, we continually face strong opposition from the designers of buildings whenever the chimney is required to extend well above the roof. Further wind tunnel studies, on commercial buildings in particular, would no doubt produce the answers we need to offset the opposition to higher chimneys by professional people."

Smoke Inspectors' Conference—This, the final session of the four-day meeting, was conducted by H. K. Kugel, Chief Engineer, Smoke Regulation and Boiler Inspection, Washington. His Vice Chairman was William E. Tidmore, Director, Smoke Abatement Bureau, Atlanta, who is also a Director of APSPAA.

The participants who discussed smoke, fly ash, and incinerator violations, included Harry C. Ballman, Smoke Regulation Engineer, Columbus, and a Director of APSPAA; J. H. Carter, Commissioner of Smoke Regulation, St. Louis, a recent APSPAA Board member; J. W. Shaw, Chief Smoke Inspector, Detroit; T. A. Podolske, Chief Smoke Inspector, Minneapolis; and J. C. Mingle, Superintendent of Air Pollution Prevention, Indianapolis.

Directors' Activities

Activities of the Board of Directors in the set-up established last year were reviewed informally by President Charles W. Gruber. They embraced many new matters, including the getting of an Executive Secretary. That resulted in a "share the man" arrangement with the Industrial Hygiene Foundation by way of Mellon Institute, whereby both organizations are being served by Robert T. Griebling, with the Association's office transferred from Chicago to Pittsburgh.

Mr. Gruber also reported for Mr. Griebling, who was absent because of illness. He had found his new job one of wide ramifications and saw an opportunity for a great deal of good public relations work. A first pamphlet, *Cleaner Air* has already been issued.

Mr. Griebling reported that the Association's membership was about 600. The Membership Committee had added, during the year, 389 individual members, 33 company members, and 70 sustaining members, with dues totalling $23,040. So, the Association had a financial balance of $18,276.05, compared with $4,258.84 a year ago. Its year's receipts totalling $22,789.40; expenditures, $8,772.19.

Expressing the opinion that the Association's name is too long and too indefinite, the Special Management Committee asked that members be requested to suggest a new designation. The Committee favored Air Purification Association. Among other suggestions were American Air Pollution Association and Air Pollution Control Association. Establishment of an emblem was also proposed.

Convention Highlights

Due recognition by testimony and resolution was given to the memory of Frank A. Chambers and A. A. Raymond, who died during the past year. Mr. Raymond had been a member of the Board of Directors. Mr. Chambers, Chief Air Pollution Control Officer of Chicago, was one of the founders of the Smoke Prevention Association, predecessor of the Air Pollution and Smoke Prevention Association of America, and was for many years its Secretary-Treasurer.

President Gruber memorialized Mr. Chambers as follows, when he touched on Mr. Chambers' death at the business meeting on May 8:

"Gentlemen, there is a vacant chair at this Convention. For 43 years a man who occupied the Secretary's chair is not with us, and it is indeed fitting and proper that, before entering upon our Annual Business meeting, we honor his memory.

"Forty-four years ago, a group of smoke inspectors joined in a common cause, and formed the association which bears our name. This group was led by a man who was chosen as Secretary-Treasurer, and who for 43 years served in this capacity, putting his heart and his energies into the development of SPAA, and who watched with pride its growth into

Aubrey J. Grindle, Vice President, the Whiting Corporation, left, and L. F. Lang, District Manager, Western Precipitation Corporation, right, were chairman and vice chairman, respectively, of the equipment manufacturers' panel on the opening day of the convention. The Big Wheels in the back row are, left to right, Charlie Frost, Charlie Gruber, and Jack Doyle.

the international organization of officials, industry and public representatives, who are today striving for a common objective—cleaner air.

"Today, indeed, we miss Frank Chambers. Frank was called from this world to his Creator, March 21, 1951, at the age of 66 years. I would now like to call upon Mr. Leonard Lang, a Chicago equipment man, who worked closely with Frank for many years, to say a few words in his memory."

Mr. Lang, District Manager, Western Precipitation Corporation, then spoke on behalf of the industry men who worked with Mr. Chambers. He was followed by William G. Christy, Director, Bureau of Smoke Control, New York City, who spoke on behalf of the smoke officials, and who presented the following resolution to the meeting, which was adopted after reading:

Resolution of Appreciation

RESOLVED: By the Forty-fourth Annual Meeting of the Air Pollution and Smoke Prevention Association of America in Session at Roanoke, Virginia, on May 9, 1951, to formally express the Association's recognition and appreciation for the years of devoted and invaluable service given by the late

FRANK A. CHAMBERS

As Secretary and Treasurer through many formative years of the Association's growth, the contribution of his energies, the power of his example, and the help of his unusual abilities gave to the Association the purpose and strength to continue its work in the interest of Control of Air Pollution and Smoke in the United States of America and Canada.

Passed unanimously, recorded in the Minutes, and Attested to by:

Charles W. Gruber, President,
Robert T. Griebling,
Executive Secretary.

AND BY ALL FRIENDS AND ASSOCIATES IN HIS LIFE WORK

Dan A. Sullivan, Public Relations Director, Commonwealth Edison Company of Chicago, a close friend of Mr. Chambers, was asked to take the resolution to the Chambers family. A resolution of appreciation had been similarly drafted and adopted by the Board of Directors on September 13, 1950, and sent to Mrs. Raymond.

* * *

Two proposed amendments to the By-Laws of the Association were overwhelmingly adopted, according to a letter ballot sent out to members after the Convention and received in time for printing in this issue of AIR REPAIR. A. D. Muldoon, Chairman of the Tellers' Committee (other members, W. C. L. Hemeon, Engineering Director, Industrial Hygiene Foundation, and John J. Grove, Secretary, Allegheny Conference on Community Development, both of Pittsburgh), reported to President Hodges that Article IX, Section 1, was passed by a vote of 238 to 5. Article XV, Sections 1, 2, and 3, were passed by a vote of 237 to 8.

For your reference, Section 1 of Article IX states:

The first meeting of the Board-*elect*, containing newly-elected members, shall be called by the President-*elect* and shall be held not later than the second day of the Annual Meeting. The *newly-constituted* Board at this meeting shall elect from its membership five (5) Vice Presidents to serve for the ensuing fiscal year, and until their successors are elected and take office. The President shall serve for one (1) year, or until his successor is elected. He must be one engaged as a full-time administrative executive of an air-pollution control or smoke prevention department. The officers shall be announced at the annual dinner or during one of the business sessions of the Annual Meeting, but the newly elected officers shall not take office until the close of the Annual Meeting. These officers shall constitute the Executive Committee of the Board of Directors. The Board may, by motion, delegate to the Executive Committee authority to act on its behalf between meetings, provided such action is reported to the Board within five (5) days.

Sections 1, 2, and 3 of Article XV were concerned with a code of ethics by which members of the Association shall be guided.

* * *

By vote of the Convention, Cleveland, Ohio, was chosen as the Association's meeting place for 1952. The exact dates will be provided to the membership as soon as they have been selected.

* * *

Charles N. Howison, Secretary, Smoke Abatement League of Hamilton County, Ohio, will serve as Chairman of the Cleaner Air Week Committee of the APSPAA for 1951. His Committee consists of Ralph W. Bourne, Charles W. Gruber, Carroll F. Hardy, R. L. Ireland, Gordon P. Larson, R. G. Norton, M. B. Sheridan, Ellis Smauder, and Herbert H. Ulrich.

Charlie is, ipso facto, Chairman of the National Smoke Abatement Week Committee, and has been sparking the National Smoke Abatement Week since its inception. It is a movement that has gained wide acceptance in the United States and Canada. This year the name of the week was changed to Cleaner Air Week in order to conform with the broader aims and objectives of the national association, and to stress the prevention of all types of air pollution, rather than smoke alone.

The seven days beginning Sunday, October 21, have been designated Cleaner Air Week by the United States Department of Commerce, and anyone desiring promotional material can write for information to Charlie Howison, 2901 Union Central Building, Cincinnati 2, Ohio. Appropriate proclamations will be issued by the mayors of the many cities where air pollution is a problem, and by the governors of several states.

Briefing the Secretary

Missing the Convention was a major tragedy for Bob Griebling, our Executive Secretary, but a number of the officers kept him informed, by wire and letter, of what went on. You will be glad to know that he is making excellent progress, with which his physician, of course, is delighted, and it won't be long before we have him back with us again.

Here are some of the notes Charlie Gruber sent him:

"I certainly felt badly, Bob, that you had to miss this Convention. The spirit was marvelous. Jack Doyle and Charlie Frost did an outstanding job of arranging and planning. The local committee was on hand to see that events came off on schedule.

"*Business Meeting*—We had the largest attendance, in my memory, at any of the business meetings. There were 137 people still in session at the close of the meeting. In the past it was difficult to hold more than 35 or 40. We spent three and a half hours in honest and open discussion.

"*Unanimous Decisions*—Throughout the year, at Board Meetings as well as at the Business Meeting, points were argued to such a degree that all votes on questions of major importance were unanimous. This is a very good sign of active discussion prior to crystallizing the subject into a vote.

"*Harry Kunkel*—During the Convention Harry Kunkel, one of our retiring Directors, celebrated his 70th birthday. He has been Special Assistant, Air Pollution Control District, Los Angeles, and, according to civil service rules there, he must retire within a month after reaching his 70th birthday.

"At the Tuesday luncheon the entire group present wished Harry luck, and acknowledged the event by singing 'Happy Birthday.' Harry's plans for the future: writing his memoirs with one hand while casting for trout with the other.

"*That Man Frost*—Charlie Frost was on the move throughout the five days of the Convention. I asked him to slow down, and he told me his father had a sad experience at the age of 67. He stopped moving for three minutes, then spent three months in bed because of his prolonged inactivity.

"*Jefferson High School Choir*—The program presented by this group of 75 young people was astounding. The crowd was so enthusiastic in its applause that the choir was not allowed to leave until it had given six encores.

"*Women's Committee*—Bob, I didn't get a chance to take in the two tours planned primarily for the ladies, but I hear they were a success, and the local women's committee did much for the pleasure and entertainment of the ladies. The committee is to be complimented, particularly Mrs. Frost and Mrs. Oakley. No less a person than my Better Half had the following to report:

" 'Like all gatherings of the fairer sex, the buses enroute to Natural Bridge and Dixie Caverns rattled from radiators to exhaust pipes with the constant chatter of female voices exchanging pleasantries. On the way home, however, it was a different story. The buses were strangely quiet. The hike through the beautiful caverns and through the park at Natural Bridge was a natural silencer. Everyone seemed to be resting quietly on the return trip!' "

* * *

Among other reports sent to Bob were the following:

On Tuesday evening Charlie Gruber was found stretched out on a sofa in Parlor D with the Bug, and a temperature of 101. Charlie was smart enough to get a shot of penicillin from the house doctor and go to bed. By the following morning he was in top-notch shape again.

Tuesday night, while James H. (Dad) Carter, St. Louis Smoke Commissioner and one of our retiring Directors, was thoroughly enjoying the good food at the Hotel Roanoke, someone rushed up, tapped him on the back, and said:

"Dad, get on the radio quick. Bob

New Officers Get Pointers.—Charles W. Gruber, second from right, retiring president, gives a few administration tips to John L. Hodges, center, newly elected president. Listening in are, left to right, Gordon P. Larson, Charlie Frost, and W. O. Everling. L. N. Hunter, another newly elected officer, will have to get his briefing some other time. He wasn't around when this picture was taken.

Hope has just flown into St. Louis and he said it was so murky that they had to use instruments!"

Dad lost his appetite right then and there!

* * *

Lawrence N. (Moon) Murray, President, Mellon National Bank and Trust Company, Pittsburgh, and Ray Harrison, Vice President, joined us for a social visit Tuesday. They alleged they wanted a drink, but we think they just came around to check on one of the accounts in their bank—the one that isn't the biggest, but has the biggest name, by all odds!

* * *

"Bob, it's a shame you couldn't have been at Roanoke," Tom Wurts wrote to Bob Griebling. "I know you're on a diet, but if your doctor could have seen our menus, I'm sure he'd let you make a few exceptions. The food was out of this world. Johnson, the genial dining room host, whom you remember from other stays you made at Roanoke, and who was a tradition at the Roanoke Hotel for so long, passed on a few years ago, but his standards of hospitality were still everywhere in evidence. The hotel certainly made us welcome every minute we were there."

Roving with Grove

The notes submitted thus far were all passed along by married men. Now, let's take a look at the 44th Annual Meeting of the APSPAA through the colored lenses of a handsome bachelor, John J. Grove, Public Relations Director, Allegheny Conference on Community Development of Pittsburgh and Secretary of the United Smoke Council there.

They came to the 44th APSPAA Convention by plane, train, and car—more than 400 delegates, many with their wives.

Regardless of the diverse ways they traveled to the colorful Virginia city of Roanoke, all were thrilled by the ever-changing panorama of the Shenandoah region—its picturesque and varied scenery of rugged, green mountains and lush, fertile valleys.

The weather was made to order by our good friends, the meteorologists. It was ideal—sunny, warm days and cool, starry nights.

The prestige and renown of the Hotel Roanoke extends far and wide, but its warmth and hospitality is a rewarding experience reserved only for its guests, the fine, friendly service, the spacious rooms, the excellent and reasonably priced meals, and the unexcelled Convention facilities.

Registration Was Painless!

To the registration staff—Mrs. Edna D. Oakey, Miss Virginia Cassell, and Miss Roberta Vetter—our hats off for a painless registration! Unquestionably, it was the best organized and speediest registration an oft-time convention delegate has experienced. All conventions please take note!

It paid off handsomely to be an early registrant—the reception in the Pine Room on Sunday evening, May 6, provided the opportunity to get acquainted in a hurry. Many delegates had not seen each other since Montreal, and the two hours together over refreshing punch passed all too quickly.

The opening day luncheon was a spirited and delightful affair — from the hearty welcome by Roanoke's Mayor Roy L. Webber, the fitting response by Prexy Charles W. Gruber, and the inspiring address by the President of the University of Virginia, Colgate W. Darden, Jr.

Ball a Great Success

Dancing in the main ballroom Monday evening, following the fact-packed morning and afternoon sessions under the auspices of the equipment manufacturers and the bituminous coal industry, was relaxing and enjoyable and provided time to absorb and assimilate the remarkable strides these two important industries were making.

We expected at least a few delegates to take a turn at the Virginia reel but were content to see several couples try their hands at the rumba. (Editor's note: No wonder I could never rumba, John, it's done with the hands, I see!) Farsighted delegates who brought their wives had no problem with the B Y O W (Bring Your Own Woman) arrangement. Through ingenuity, resourcefulness, and the productive contacts made for single delegates by the Roanoke ladies, everybody had a dancing partner.

The chemical fraternity, reporting at the Tuesday morning session, hit the headlines with the engineering details concerning fume abatement systems. Said the Roanoke World-News: "Milady's Nylons Won't Peel from Acid in Air Anymore."

This year's committee reports scored heavily with all delegates—they were to the point, well-written and ably presented.

While delegates were attending technical sessions, the ladies visited one of the world's wonders, Natural Bridge, and saw other sights that have made the Old Dominion so historically rich and interesting.

Many delegates visited the 100 per cent coal-burning locomotives of the Norfolk and Western Railway, and nobody was a bit surprised to discern perfect combustion efficiency. Interesting, too, was the inspection trip through the N. & W. shops.

* * *

If an all-star performance can have a stellar attraction, it was the annual dinner and dance. All APSPAA turned out in bib 'n' tucker to hear the ringing address by Judge J. Lindsay Almond, Jr., Attorney-General of Virginia. It was Southern oratory at its finest and carried home a fiscal message of lasting significance to every American.

The Banquet

As for the banquet, the gourmands, and there were many of us, really had their palates tickled. It was the wee hours of the morning before the last note sounded and the last dance step rustled in the main ball room.

Between sessions and meetings, the exhibits and displays attracted keen interest and lively attention. Their proximity to the conference rooms on the main floor made them an integral part of the Convention.

There was no let-down on Thursday, the final day. The a.m. session on design problems for steam power plants and the p.m. conference held by smoke inspectors were illuminating, especially the revelations on "how to win friends and influence people" and still enforce stiff municipal smoke ordinances.

To Charlie Frost and his genial hosts and hostesses . . . Orchids for a job superbly done.

Membership

Thanks, John Grove, for an inspiring report of the Convention. One of the matters that was discussed with a great deal of pride was the growth of the membership during the past year. Henry Hebley's committee put on a wonderful drive, and they're going to continue during the coming year.

But Henry Hebley's committee can't do it all. Everyone of us should go out and solicit, so that we become the strong organization toward which we are striving. All municipalities that have an air pollution abatement program should be sustaining members, just as Allegheny County. And all smoke inspectors, not just the chiefs, should be individual members. Every industry has an air pollution problem, and therefore should join us in order to help fight air pollution.

If there is an organization in your town which should belong to the APSPAA, and if you do not feel you can do the sort of selling that will get this organization's name on the dotted line, please send the name of this group to the Executive Secretary, and he will make arrangements to have someone get in touch with this prospect. Our efforts to obtain members should never abate!

Just to show you what sort of a selling job has been done in the past year, we are jotting down the "salesmen" who did the work.

W. L. Stewart, Jr., Executive Vice President of the Union Oil Company, Los Angeles, heads the list. Here are the firms he persuaded to join us in our effort:

SUSTAINING

Atlantic Refining Company
Bankline Oil Company
Cities Service Company
Deep Rock Oil Company
Douglas Oil Company of California
Ethyl Corporation
Fletcher Oil Company
General Petroleum Corporation
Hancock Oil Company of California
Honolulu Oil Corporation
Humble Oil & Refining Company
Ohio Oil Company
Phillips Petroleum Company
Richfield Oil Corporaton
Shell Oil Company
Signal Oil & Gas Company
Socony-Vacuum Oil Company
Standard Oil Company of California
Standard Oil Company of Indiana
Texas Company
Tide Water Associated Oil Company
Union Oil Company of California
Wilshire Oil Company

COMPANY

Grayson Controls
Rothschild Oil Corporation
Sun Oil Company
Southern California Edison Co.
Stauffer Chemical Co.

And here's *Henry Aldrich's* work for the year:

SUSTAINING

Air Preheater Corporation
American Boiler & Affiliated Industries
Foster Wheeler Corporation

COMPANY

William Bros Boiler & Manufacturing Co.
Dayton Stoker Company
Erie City Iron Works
Hapman-Dutton Corporation
Hoffman Combustion Engineering Company
E. Keeler Company
Superior Combustion Industries, Inc.

Jack Doyle brought in three sustaining members. They are the Aerotec Corporation, the American Blower Corporation, and the Prat-Daniel Corporation.

Charlie Gruber accounted for the following company members: Allied Chemical & Dye Corporation, Canton Stoker Company, and Davison Chemical Corporation.

Charlie Howison takes credit for bringing the Smoke Abatement League of Hamilton County into the fold.

Ellis Smauder "sold" the following company members: American Incinera-

The roving photographer caught Dr. Edward R. Weidlein, President of Mellon Institute, chatting with Thomas C. Wurts, Director of the Allegheny County Bureau of Smoke Control. Wurts, a Vice President of AP&SPAA, is also chairman of the Association's Special Management and Finance committees.

tor Corporation and Valley Welding & Boiler Company.

Tom Wurts brought in National Tube Company as a company member. Sustaining members credited to Tom Wurts include Allegheny County, Gulf Oil Corporation, and Jones & Laughlin Steel Corporation; with *L. P. Patin*, signed up Carnegie-Illinois Steel Corporation as a sustaining member.

L. F. Lang brought in Western Precipitation Corporation as a sustaining member. The Cincinnati Gas & Electric Company is in a similar bracket thanks to *J. E. Tobey*.

L. A. Winkelman signed Public Service Electric & Gas Company as a sustaining member; *Carl E. Miller* did the same for Combustion Engineering Superheater Company; so did *William G. Christy* for Consolidated Edison Company of New York.

Harry C. Ballman signed Morse Boulger Destructor Company as a company member.

Philadelphia Electric Company was brought in as a sustainer by *W. C. Wagner*.

H. G. Dyktor's score: company member, Standard Oil Company of Ohio; sustaining member, American Steel & Wire Company, Republic Steel Corporation.

Bill Tidmore signed the Atlanta Gas Light Company as a company member. The same was true for *H. E. Kunkel* and Stanford Research Institute.

Among *Dr. George R. Hill's* conquests in the sustaining group the following are listed: American Smelting & Refining Company of Utah, Bunker Hiill & Sullivan Mining & Concentrating Company, and Aluminum Company of America.

Herbert Ulrich brought in three company members: American Smelting & Refining Company of Nebraska, Omaha Public Power District, and Storz Brewing Company.

G. V. Williamson's sustaining members include Detroit Edison Company, Potomac Electric Power Company and

Union Electric Company of St. Louis.

Marc Bluth, Executive Secretary of the Stoker Manufacturers' Association, signed Auburn Foundry as a company member, and the Iron Fireman Corporation as a sustaining member.

H. H. Bubar is credited with bringing iin Bubar Dust Systems as a company member.

And how did the Chairman do?

Not so bad. *Henry Hebley* signed Bituminous Coal Research as a company member, then went on to get the following sustaining members: Central Pennsylvania Coal Producers' Association, Chesapeake & Ohio Railroad Company, Illinois Coal Operators' Association, Northern West Virginia Coal Operators' Association, Ohio Coal Association, Western Pennsylvania Coal Operators' Association, Virginia Coal Operators' Association, and Ford Motor Company.

For some reason or other the Executive Office does not have a record of who was responsible for obtaining the following company and sustaining members. Please let the Executive Secretary know to whom the Association is indebted for signing these members:

SUSTAINING

Babcock & Wilcox Company
Cleveland Electric Illuminating Company
Coal Producers' Committee for Smoke Abatement
Consolidated Gas & Electric Light Co. of Baltimore
Detroit Stoker Company
Fly Ash Arrestor Corporation
Research Corporation
Riley Stoker Corporation
Standard Oil Development Company

COMPANY

American Engineering Company
Cleaver-Brooks Company
Johnston Brothers
Strong-Scott Manufacturing Company
Orr & Sembower, Inc.
Toledo Edison Company
Union Iron Works
Wickes Boiler Company
York-Shipley, Inc.

September Meeting

Members and friends of the APSPAA are invited to attend the two-day meeting of the East Central Section, to be held in Detroit on Thursday and Friday, September 13 and 14, 1951.

The meeting will convene at the Veterans' Memorial Building, 151 West Jefferson Street, Detroit 26, Michigan. Here is the tentative program:

Thursday Morning

Two of the following:

1. Municipal housekeeping as an air pollution factor (discussion of the Cincinnati program).
2. The new Cleveland Foundry of the Ford Motor Company.
3. Control of Coke Oven Emissions, by Pittsburgh Coke & Chemical Company.
4. Industrial incineration — a design procedure and operation guide.
5. Discussion of proposed APSPAA committee structure.

Noon

Luncheon presided over by J. W. Shaw, Chief Smoke Inspector, Detroit. Speaker: A downtown retail merchant. Subject: Soiling Costs. Welcome: Mayor Albert E. Cobo.

Afternoon

1. Paper on air pollution control at a refinery and cracking plant.
2. Field trip to Keystone and Aurora plants.

Friday Morning

1. Panel on the characteristics of a comprehensive area-wide air pollution study.
2. One of the subjects mentioned for Thursday morning but not covered then.

Noon

Business meeting and Dutch-treat lunch.

Afternoon

1. % Volatile: The Detroit Test of Equivalent Smoke Producing Characteristics.
2. Smoke Control of Coal-Fired Boilers in Marine Service, by Gene Genton.
3. Smoke Control of Oil-Fired Boilers in Marine Service, by an Equipment Engineer.

Registration for the two-day meeting will be $2, and registration will be continuous on Thursday and Friday, primarily for identification purposes.

News and Views

The Board of Aldermen of the City of New Haven, Conn., has ordered a sum of money to be set aside for a study of air pollution. The study is to be made for the purpose of formulating suggestions and recommendations for the enactment of air pollution control ordinances.

* * *

When the stacks of the Isabella Furnace of the United States Steel Company near Pittsburgh belch forth their heavy ferro-manganese discharge, they become some of the worst polluters in Allegheny County.

A few years ago Tom Wurts made repeated unsuccessful efforts to obtain a color photo of the discharge. He finally turned the job over to his younger daughter, Mrs. George B. Berger, an artist, who got the effect Tom wanted by painting an oil. It was an excellent job, and Tom hung the painting on his office wall.

A few weeks ago Mrs. Berger entered the painting in an exhibit. She named it "Isabella." (Tom says all blast furnaces have girls' names because they are so unpredictable. The truth is, the blast furnaces in the Pittsburgh district were named after women relatives of Andrew Carnegie.)

In a field of 118 contestants, Mrs. Berger's painting won first prize! She could not even accept the award in person, because at the time she was in the hospital presenting the family with another smoke controller.

While we're on the subject of girls, let's not forget Nancy Roberson, Charlie Frost's Girl Friday. She spent a lot of time during the year on Convention plans—in addition to her regular duties—and deserves a big hand.

Next Issue

Thanks for staying with us until the end. There was a lot to report. And there's more coming.

As we were going to press, Ellis Smauder dropped into the Secretariat to announce that he had just come from a meeting of the Municipal Code Committee of the Incinerator Institute.

The meeting, called by Chairman Smauder, completed discussion on a proposed incinerator code to be submitted to the Incinerator Committee of APSPAA. This suggested code will be reproduced in full in the next issue of AIR REPAIR, along with an article on incinerators supplied to *Charette,* monthly magazine of the Pittsburgh Architectural Club, by Tom Wurts.

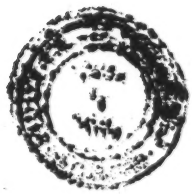
There will also be a stimulating article on the device used by Charlie Gruber in Cincinnati to call attention to the good soldiers among local industry who cooperate with the smoke control program there. It's such a good suggestion that it should be adopted nationally by other air pollution control officials. Watch for it!

PAST PRESIDENT HUTCHINSON DIES

Arthur E. Hutchinson, 71, retired Chief of the Bureau of Smoke Abatement, Cleveland, Ohio, died suddenly on August 18, 1951.

He was one of the outstanding municipal air pollution abatement officials in the United States, and served two terms as President of the Smoke Prevention Association of America, predecessor to the Air Pollution and Smoke Prevention Association of America.

Mr. Hutchinson, a native of Gaines, New York, was asked to serve the City of Cleveland as a smoke abatement engineer in 1938. He previously was an engineer on the Niagara Falls power project, but moved to Cleveland to become a combustion engineer in the Cleveland Board of Education. He also taught combustion engineering at Fenn College, Cleveland. When the Division of Air Pollution Control was created in 1947, Mr. Hutchinson assumed the position of Chief of the Bureau of Smoke Abatement in the Division. He served in that capacity until December 31, 1950, when he retired.

Mr. Hutchinson is survived by his wife, to whom the deepest sympathy of the Air Pollution and Smoke Prevention Association of America has been extended.

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